

CONVEY-ALLTM



TRANSFER CONVEYOR

Models:

1214-GN, 1615, 1616-RC,
2218, 2218-RC

OPERATOR'S MANUAL

LIMITED WARRANTY

Convey-All™ warrants to the buyer that the new machinery is free from defects in material and workmanship.

This warranty is only effective as to any new machinery which has not been altered, changed, repaired or treated since its delivery to the buyer, other than by Convey-All™ or its authorized dealers or employees, and does not apply to accessories, attachments, tools or parts, sold or operated with new machinery, if they have not been manufactured by Convey-All™.

Convey-All™ shall only be liable for defects in the materials or workmanship attributable to faulty material or bad workmanship that can be proved by the buyer, and specifically excludes liability for repairs arising as a result of normal wear and tear of the new machinery or in any other manner whatsoever, and without limiting the generality of the foregoing, excludes application or installation of parts not completed in accordance with Convey-All™ operator's manual, specifications, or printed instructions.

Written notice shall be given by registered mail, to Convey-All™ within seven (7) days after the defect shall have become apparent or the repairs shall have become necessary, addressed as follows:

**Convey-All Industries Inc.
130 Canada Street
Winkler, Manitoba R6W 0J3
Canada**

This warranty shall expire one (1) year after the date of delivery of the new machinery.

If these conditions are fulfilled, Convey-All™ shall at its own cost and at its own option either repair or replace any defective parts provided that the buyer shall be responsible for all expenses incurred as a result of repairs, labor, parts, transportation or any other work, unless Convey-All™ has authorized such expenses in advance.

The warranty shall not extend to any repairs, changes, alterations, or replacements made to the new equipment other than by Convey-All™ or its authorized dealers or employees.

This warranty extends only to the original owner of the new equipment.

This warranty is limited to the terms stated herein and is in lieu of any other warranties whether expressed or implied, and without limiting the generality of the foregoing, excluded all warranties, expressed or implied or conditions whether statutory or otherwise as to quality and fitness for any purpose of the new equipment. Convey-All™ disclaims all liability for incidental or consequential damages.

This machine is subject to design changes and Convey-All™ shall not be required to retrofit or exchange items on previously sold units except at its own option.

WARRANTY VOID IF NOT REGISTERED



WARRANTY REGISTRATION FORM and INSPECTION REPORT

CONVEY-ALL INDUSTRIES INC.
130 CANADA STREET
WINKLER, MANITOBA R6W 0B3
TF: (800) 418-9461 FX: (204) 325-8116
www.convey-all.com

The Dealer must fill out this form. It is to be signed by both the Dealer and Buyer at the time of delivery. Scan or photograph the completed form (be sure it is legible). Email it to: register@convey-all.com
A copy of this form may also be mailed to Convey-All Industries Inc, at the above address.

Buyer's Name _____	Dealer's Name _____
Address _____	Address _____
City _____	City _____
Province/State _____	Province/State _____
Postal Code/Zip Code _____	Postal Code/Zip Code _____
Country _____	Country _____
Phone Number _____	Phone Number _____
Unit's Model Number _____	Unit's Serial Number _____
Delivery Date _____	General Purpose: <input type="checkbox"/> Private <input type="checkbox"/> Commercial

UNIT INSPECTION

- ☐ All Fasteners Tight
- ☐ V-Belt(s) are Tensioned and Rotate Freely
- ☐ Driveline/Motor Mount Secured to Machine
- ☐ Fuel is turned off at Engine
- ☐ Machine and All Bearings Lubricated
- ☐ Conveyor Belt Aligned and Tensioned
- ☐ Tire Pressure Checked

SAFETY INSPECTION

- ☐ All Guards/Shields Installed and Secured
- ☐ All Safety Decals Clear and Legible
- ☐ Reflectors, Slow Moving Vehicle (SMV) Sign Clean
- ☐ Safety Chain on Hitch
- ☐ Reviewed Operating and Safety Instructions

I have thoroughly instructed the buyer on the above described equipment. The review included the content of the Operator's Manual, equipment care, adjustments, safe operation and the applicable warranty policy.

Date _____ Dealer's Signature _____

The above equipment and Operator's Manual have been received by me. I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date _____ Buyer's Signature _____

This page intentionally left blank

TABLE OF CONTENTS

DESCRIPTION	PAGE
Section 1: INTRODUCTION	1-1
1.1 Operator Orientation	1-1
1.2 Serial Number Location	1-1
Section 2: SAFETY	2-1
2.1 Safety Orientation	2-2
2.2 General Safety	2-2
2.3 Equipment Safety Guidelines	2-3
2.4 Safety Decals	2-3
2.4.1 How to Install Safety Decals	2-3
2.5 Work Preparation	2-4
2.6 Battery Safety	2-4
2.7 Engine Safety	2-5
2.8 Electrical Safety	2-6
2.9 Lock-Out Tag-Out Safety	2-6
2.10 Operating Safety	2-6
2.11 Workplace Hazard Area	2-7
2.12 Tire Safety	2-7
2.13 Maintenance Safety	2-7
2.14 Transport Safety	2-8
2.15 Storage Safety	2-8
2.16 Safety Decal Location	2-9
Section 3: OPERATION	3-1
3.1 Machine Components	3-2
3.2 Components and Controls	3-3
3.3 Machine Break-In	3-7
3.4 Pre-Operation Checklist	3-7
3.5 Attaching to Tow Vehicle	3-8
3.6 Conveyor Placement	3-9
3.7 Field Operation	3-10
3.7.1 Starting Conveyor	3-10
3.7.2 Stopping Conveyor	3-11
3.7.3 Emergency Stopping	3-11
3.7.4 Restarting after Emergency Stop	3-11
3.7.5 Belt Speed	3-12
3.7.6 Unplugging	3-12
3.7.7 Hold Down Wheels on "GN" Models	3-12

continued on next page

TABLE OF CONTENTS

DESCRIPTION	PAGE
3.8 Operating Hints	3-13
3.9 Transportation	3-14
3.10 Storage	3-15
Section 4: SERVICE AND MAINTENANCE	4-1
4.1 Fluids and Lubricants	4-1
4.1.1 Greasing	4-2
4.2 Servicing Intervals	4-2
4.2.1 After 10 Hours or Daily	4-3
4.2.2 After 50 Hours or Weekly	4-4
4.2.3 After 200 Hours or Annually	4-5
4.3 Maintenance Procedures	4-6
4.3.1 Conveying Belt Tension	4-6
4.3.2 Conveyor Belt Alignment	4-7
4.3.3 Conveyor Belt Replacement	4-8
4.3.4 Drive Belt Tension	4-9
4.3.5 Check Pulley Alignment	4-10
4.3.6 Drive Belt Replacement	4-10
4.3.7 "GN" Hold Down Wheels Replacement	4-10
4.3.8 Changing Engine Oil and Filter	4-11
4.3.9 Clean/Change Air Filter	4-11
4.4 Service Record	4-13
4.5 Ordering Parts	4-14
Section 5: TROUBLESHOOTING	5-1
Section 6: SIGN-OFF FORM	6-1
Section 7: REFERENCE	7-1
7.1 Specifications	7-1
7.2 Bolt Torque	7-2

Section 1: INTRODUCTION

Congratulations on your choice of a Convey-All™ Transfer Conveyor. It is designed to efficiently move grain, pulse crops or granular material between a truck, trailer, storage facility and another conveyor.

This equipment has been designed and manufactured to meet the exacting standards for such equipment in the agricultural industry and will keep your seed delivery operation working at optimum efficiency.

Keep this manual handy for frequent reference. Pass it on to new operators or owners. Call your dealer, distributor or Convey-All Industries Inc., if you need assistance, information, additional/replacement copies, or a digital copy of the document.

Information provided herein is of a descriptive nature. Convey-All Industries Inc. reserves the right to modify the machinery design and specifications provided herein without any preliminary notice.

Performance quality may depend on the material being handled, weather conditions and other factors.

1.1 OPERATOR ORIENTATION

The directions left, right, front and rear, as mentioned throughout this manual, are as seen from the tow vehicle driver's seat and facing the direction of travel. The hopper is the front of the conveyor.

1.2 SERIAL NUMBER LOCATION

Always give your dealer the serial number of your conveyor when ordering parts or requesting service or other information. The conveyor's serial number is located at the hopper.

Please mark the identifying numbers in the space provided for easy reference.

Conveyor Model No: _____

Conveyor Serial No: _____

Engine Model No: _____

Engine Serial No: _____



Fig 1 - Serial number location

This page intentionally left blank

Section 2: SAFETY



The following signal words are used in this manual to express the degree of hazard for areas of personal safety.

When you see the symbol and/or the signal words described below, obey the accompanying message to avoid possible injury or death.

DANGER - Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations. Typically for machine components which, for functional purposes, cannot be guarded.

WARNING - Indicates a hazardous situation, if not avoided, could result in death or serious injury. This word identifies hazards that are exposed when guards are removed. It may be used to alert against unsafe practices.

CAUTION - Indicates a hazardous situation, if not avoided, could result in minor or moderate injury. It may be used to alert against unsafe practices.

NOTICE - Indicates practices or situations which may result in the malfunction of, or damage to equipment.

2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE operation and maintenance of your Convey-All™ Transfer Conveyor. Be sure that everyone who will operate, maintain or work around it, is familiar with the safety, operating and maintenance procedures.

This manual will take you step-by-step through your working day. It will alert you to all the safe practices that should be adhered to while operating the conveyor.

Remember, you are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your workday. Be certain that all operators of this equipment follows these procedures.

Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Conveyor owners must give operating instructions to operators or employees before allowing them to operate the machine.

Procedures must be reviewed annually thereafter, as per OSHA (Occupational Safety and Health Administration) regulation 1928.57.

- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to understand all safety and operating instructions in this document, and to follow them.
- An untrained operator exposes himself and bystanders to possible serious injury or death.
- Think SAFETY! Work SAFELY!

2.2 GENERAL SAFETY

- Read and understand the Operator's Manual and all safety decals before operating, maintaining, adjusting or unplugging the conveyor.



- Only trained, competent persons shall operate the conveyor. An untrained person is not qualified to operate the machine.

- Have a first-aid kit available for use should the need arise and know how to use it.



- Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.

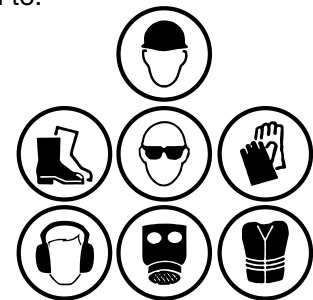


- Do not allow riders.

- Do not allow children, spectators or bystanders within hazard area around the machine.

- Wear appropriate protective gear. This list may include but is not limited to:

- Hard hat
- Protective shoes with slip resistant soles
- Eye protection
- Work gloves
- Hearing protection
- Respirator or filter mask
- Hi-Visibility safety vest



- Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment.

Consult your doctor about operating this machine while taking prescription medications.

- If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.
- Review safety related items annually with all personnel who will be operating or maintaining the conveyor.

2.3 EQUIPMENT SAFETY GUIDELINES

- Safety of the operator and bystanders is one of the main concerns in designing and developing this conveyor. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment.
- Do not allow persons to operate this unit until they have been trained. They must know all safety precautions.

Review the safety instructions with all personnel annually.

- In order to provide a better view, some images in this manual may show an assembly with a safety guards removed.

Equipment should never be operated in this condition. Keep all guards in place. If removal becomes necessary for repairs, replace the guard prior to use.



- This equipment is dangerous to children and people unfamiliar with its operation.

The operator must be responsible, properly trained and physically able. You should be familiar with farm machinery in general.

- Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - DON'T TRY IT.
- Do not modify the equipment in any way. Unauthorized modification result in serious injury or death and may impair the function and life of the equipment.
- The design and configuration of this conveyor includes safety decals and equipment. They need to be clean, readable or in good condition.

2.4 SAFETY DECALS

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible.
- Replaced parts that displayed a safety decal should also display the current decal.
- All safety decals have a part number in the lower right hand corner. Use this part number when ordering replacements.
- Safety decals are available from your authorized distributor, dealer or directly from Convey-All Industries Inc.

2.4.1 How to Install Safety Decals:

1. Be sure that the area is clean and dry. Preferably, apply the decals inside.
2. Ensure temperature is above 10°C (50°F).
3. Remove all dirt, grease, wax from the surface.
4. Clean with a non-ammonia based cleaner.
5. Wipe the clean surface with isopropyl alcohol on paper towel, and allow to dry.
6. Determine exact position before you remove the backing paper.
7. Peel the smallest portion of the split backing paper.
8. Align the decal over the specified area. Use a squeegee to carefully press the small portion, with the exposed adhesive backing, into place.
9. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal into place.
10. Small air pockets can be pierced with a pin and smoothed out using the squeegee, or a piece of sign backing paper.

2.5 WORK PREPARATION

- Never operate the conveyor until you have read this manual, and comprehend the information.

Also, read the engine operator's manual.

Be familiar with the safety messages found on the decals around this unit.

- Personal protection equipment including:

- Hard hat
- Eye protection
- Protective shoes
- Work gloves

are recommended during placement, operation, maintaining and repairing, transportation and storage of the equipment.



- Do not allow long hair, loose fitting clothing or jewelry to be around equipment.

- **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Agricultural equipment can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis, if the noise exceeds 80db.



Noise over 85db on a long-term basis can cause severe hearing loss.

Noise over 90db adjacent to the operator over a long-term basis may cause permanent, total hearing loss.

Note:

Hearing loss from loud noise (tractors, chain saws, radios, etc.) is cumulative over a lifetime without hope of natural recovery.

- Clear the working area of stones, branches or hidden obstacles that might be hooked, snagged or tripped over, causing injury or damage.
- Operate only in daylight or good artificial light.
- Be sure machine is in a stable position, is adjusted and in good operating condition.
- Ensure that all safety guards and safety decals are properly installed and in good condition.
- Before starting, inspect the unit for any loose bolts, worn parts, cracks, leaks or frayed belt.

Make the necessary repairs.

Always follow the maintenance instructions.

2.6 BATTERY SAFETY

- Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.
- Avoid contact with battery electrolyte. Wash off any spilled electrolyte immediately.
- Wear safety glasses when working near batteries.
- Do not tip batteries more than 45 degrees, to avoid electrolyte loss.
- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of electrical system.
- When storing the conveyor for an extended period:
 - Remove the battery
 - Be sure it is fully charged
 - Store it inside
 - Do not sit the battery on a cold, concrete floor
- Before using the battery, after it has been in storage, be sure it is fully charged.



2.7 ENGINE SAFETY

- Read and understand the operating manual provided with the engine.
- Use proper tools to service engine.
- Do not run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.



- Store fuel in approved safety containers.

- Do not store fuel near an open flame.

Appliances such as a stove, furnace, or water heater use a pilot light which can create a spark.



- No smoking when filling the fuel tank.



- Do not remove fuel cap while engine is running.

- Do not refuel indoors where area is not well ventilated. Outdoor refueling is preferred.

- Do not refuel while engine is running. Allow engine to cool for 5 minutes before proceeding.

- Use fresh fuel. Stale fuel can gum carburetor and cause leakage.

- Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

- Do not operate engine if fuel has spilled. Move machine away. Avoid creating any ignition until the fuel has evaporated.

- Do not run engine above rated speeds. This may result in damage and injury.

- Do not tamper with the engine speed selected by the original equipment manufacturer.

- Do not tamper with governor springs, governor links or other parts which may increase the governed engine speed.

- Do not strike flywheel with a hard object or metal tool. This may cause it to shatter in operation.

- Keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.

- Do not operate engine with grass, leaves, dirt or other combustible materials in muffler area.

- Do not operate engine without muffler.



WARNING: Hot Equipment

Do not touch muffler, cylinder or fins while engine is running. Contact will cause burns.

- Do not use this engine on any forest covered, brush covered, or grass covered, unimproved land, unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator.



In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

- Inspect muffler periodically. Replace if necessary.

If engine is equipped with a muffler deflector, inspect periodically. Replace with correct part.

- Do not check for spark, or crank the engine while the spark plug or spark plug wire is removed.

- Do not run engine with its air filter cover removed.



WARNING: Possible Engine Damage

Decelerate engine slowly to stop. Avoid choking the carburetor to stop engine. Choke only for an emergency stop.

2.8 ELECTRICAL SAFETY

- Have only a qualified electrician supply power. All wiring should comply with the ANSI/NFPA 70 electrical requirements.



For North America make certain that sufficient amperage, at proper voltage and appropriate frequency for your geographical area is available before connecting power. All wiring should comply with ANSI/NFPA 70 electrical requirements. Have a licensed electrician provide power to the machine.

- Make certain that the conveyor motor is properly grounded at the power source.
- Make certain that all electrical switches are in the OFF position before plugging in the conveyor.
- Turn machine OFF, shut down and lock out power supply (safety lock-out devices are available through your Convey-All dealer parts department) and wait for all moving parts to stop before assembling, servicing, adjusting, maintaining or repairing.
- Disconnect power before resetting any motor.
- Replace any damaged electrical plugs, cords, switches and components immediately.
- Do not work on the conveyor's electrical system unless the power cord is unplugged or the power supply is locked out.

2.9 LOCK-OUT TAG-OUT SAFETY

- Establish a formal Lock-Out Tag-Out program for your operation.
- Train all operators and service personnel before allowing them to work around the area.
- Provide tags on the machine and a sign-up sheet to record tag out details.

2.10 OPERATING SAFETY

- Be sure that anyone who will be operating the conveyor, or working around the unit, reads the manual. They must know the operating, maintenance and safety information.



Review the manual annually.

- Clean or replace all safety decals if they cannot be clearly read and understood.
- Place all controls in neutral, and stop the engine. Remove the ignition key. Wait for all moving parts to stop before adjusting, repairing or unplugging.
- Keep all bystanders, especially children, away from the machine when running.

Also, when authorized personnel are carrying out maintenance work.

- Establish a Lock-Out, Tag-Out policy for the work site. Be sure all personnel are trained in and follow all procedures.

Lock-out and tag-out all power sources before servicing the unit or working around equipment.

- Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.

- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.



- Do not allow riders on the conveyor when moving or transporting.

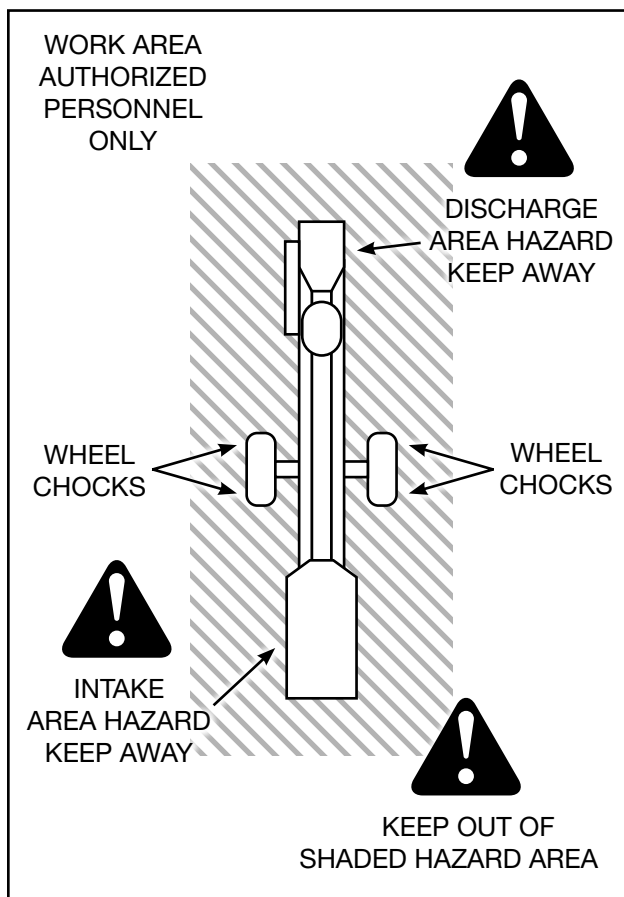
- Keep working area clean and free of debris to prevent slipping or tripping.




- Do not operate machine when any guards are removed.

- Chock wheels of conveyor before starting.

2.11 WORKPLACE HAZARD AREA



2.12 TIRE SAFETY

- Failure to follow procedure when mounting a tire on a wheel or rim can produce an explosion and may result in serious injury or death. 
- Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Have a qualified tire dealer or repair service perform required tire maintenance.
- When replacing worn tires, make sure they meet the original tire specifications.

Never undersize.

- Reference the tire side wall for information on the maximum cold tire pressure (PSI). Keep the tires inflated to this setting.

2.13 MAINTENANCE SAFETY

- Review Section 4: Service and Maintenance, of this Manual before maintaining or operating the conveyor. 
- Follow good shop practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job.
- Place all controls in neutral or off. Stop the engine and remove ignition key. Wait for all moving parts to stop before servicing, adjusting or repairing.
- Relieve pressure from hydraulic circuit before servicing.
- Before applying pressure to a hydraulic system, make sure all components are tight. The hoses and couplings must be in good condition.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts. 
- Replace parts with genuine factory replacements parts to restore your equipment to original specifications.

Convey-All Industries Inc. will not be responsible for injuries or damages caused by the use of unapproved parts and/or accessories.

- Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.
- Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.
- Before resuming operation, install and secure all guards when maintenance work is completed.
- Keep safety decals clean. Replace any decal that is damaged or not clearly visible.

2.14 TRANSPORT SAFETY

- If transporting on a trailer, be sure that it is equipped with brakes that are in good working order. Be familiar with their operation.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
- Never allow riders on the conveyor.
- Comply with all local laws governing safety and transporting of equipment on public roads.
- Do not exceed a safe travel speed. Slow down for rough terrain and when cornering.
- Plan your route to avoid heavy traffic.
- Do not drink and drive.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.



2.15 STORAGE SAFETY

- Store in an area away from human activity.
- If required, make sure the unit is solidly blocked up.
- Remove the battery and store it in a dry location. Do not sit it on a cold concrete floor.
- Make certain all mechanical locks are safely and positively connected before storing.
- Do not permit children to play on or around the stored machine.

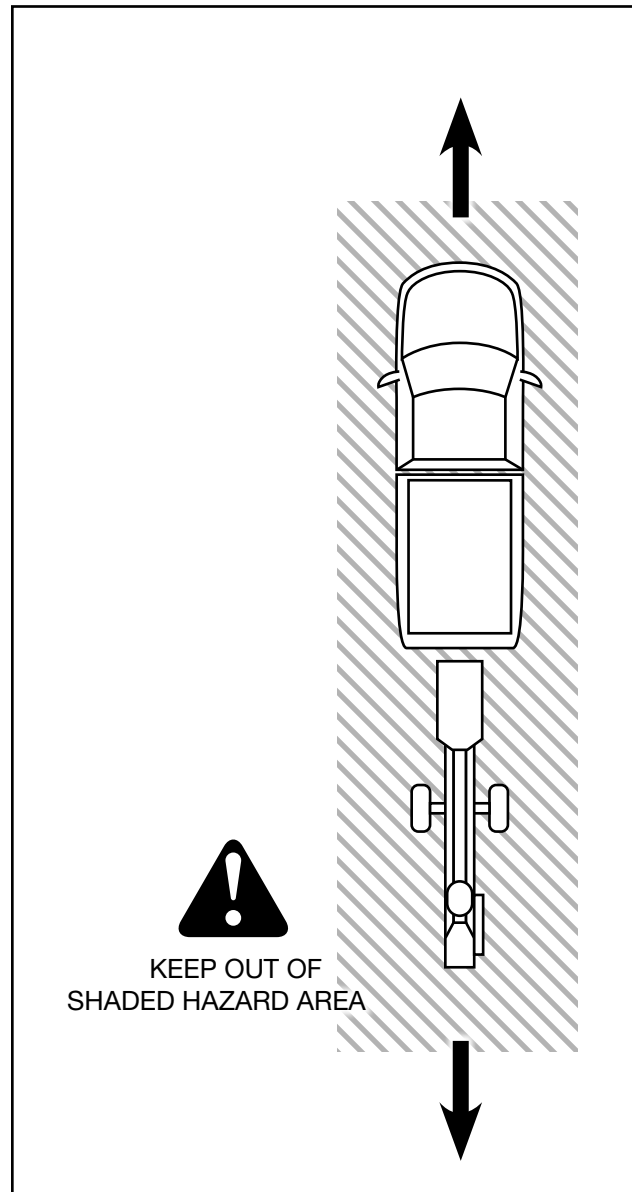


Fig 2 - Transporting hazard area

2.16 SAFETY DECAL LOCATION

The following illustrations show the general location of decals on this conveyor. The position of decals may vary depending on the machine's options. Decals are not shown at actual size.

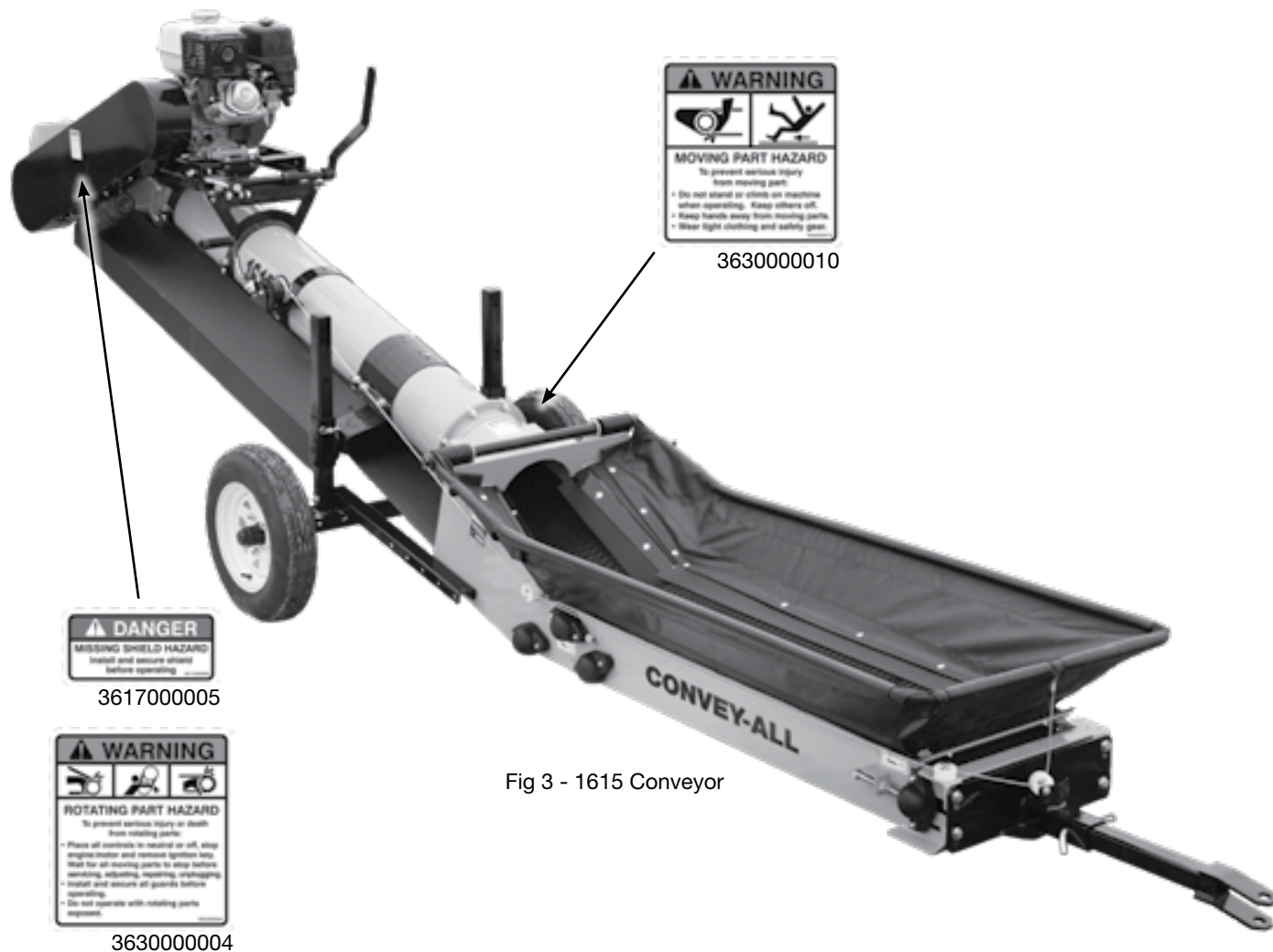


Fig 3 - 1615 Conveyor

REMEMBER - If safety decals have been damaged, removed, become illegible, or parts were replaced without signage, new ones must be applied. New decals are available from your authorized dealer.

This page intentionally left blank

Section 3: OPERATION



Operating Safety

- Read and understand the Operator's Manual. Be familiar with all safety decals, before using.
- Stop the engine or motor. Remove ignition key. Wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Clear the area of bystanders, especially children, before starting.
- Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Do not allow riders on the conveyor when transporting.
- Do not operate machine when any guards are removed.
- Chock wheels of conveyor before starting.
- Keep working area clean and free of debris to prevent slipping or tripping.
- Establish Lock-Out Tag-Out policy for the work site. Be sure all personnel are trained in and follow all procedures.

It is the responsibility of the owner, and operators to become familiar with the operating procedures in this section. Follow the instructions safely. It is everyone's business to provide a safe working environment for their co-workers.

The design and configuration of this conveyor includes safety decals and equipment. Hazard controls and accident prevention depend on the personnel operating and maintaining the equipment. Their concern, attentiveness and proper training are crucial.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully for instructions on how to set it, to provide maximum efficiency.

By following the these procedures, in conjunction with a good maintenance program, your Transfer Conveyor will provide many years of trouble free service.

3.1 MACHINE COMPONENTS

The Transfer Conveyor is portable and low enough to fit under trucks or low storage facilities. The "RC" models have an extra low profile to fit under rail cars.

Normally, the discharge is directed into another conveying system.

A gas engine, electric or hydraulic motor can supply power to the drive located at the discharge end.

A manual winch is used to raise and lower the hopper frame.

The main components, and their general location are listed below:

- a. Conveyor Tube
- b. Hopper
- c. Hopper Winch
- d. Discharge Hood
- e. Engine/Motor Mount (gas engine shown)
- f. Drive Belts or Hydraulic Motor
- g. Axle and Wheels
- h. Hitch
- i. Document Holder

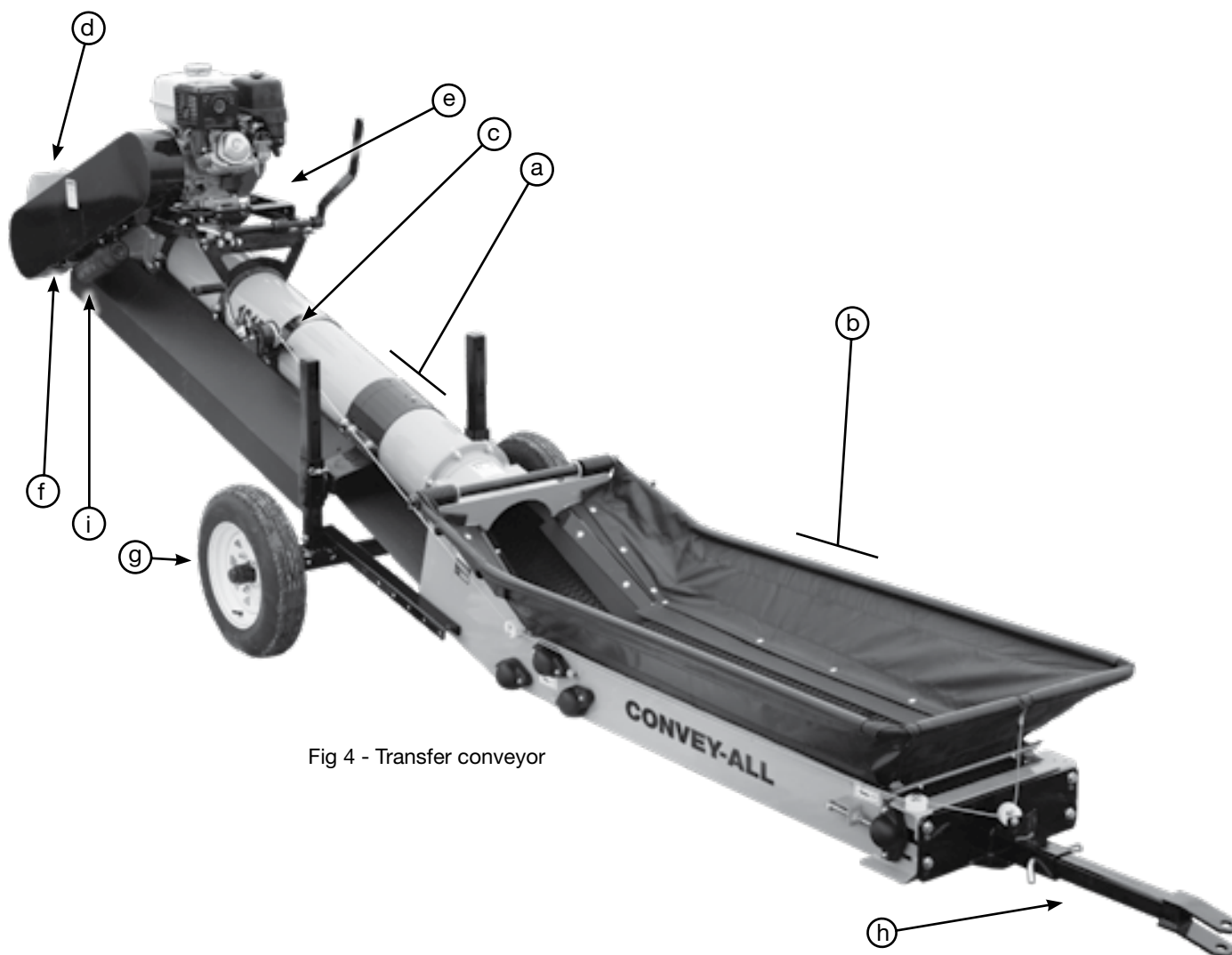


Fig 4 - Transfer conveyor

3.2 COMPONENTS AND CONTROLS

Before starting to work, all operators should familiarize themselves with the location and function of the components and controls on your specific unit.

Options and location may vary depending on model.

Gas Engine:

Read the engine manufacturer's manual for more detailed instructions.

- a. Ignition Switch:
This switch controls the power to the engine electrical system. Turn clockwise to start, vertical position is ON.
Turn the key counterclockwise to turn OFF.
- b. Circuit Protector:
This protector monitors the engine electrical circuit. Its LED will illuminate when the circuit exceeds its preset value and trip the breaker. Depress indicator to reset the breaker and the light will go out.
- c. Engine Mount Lever:
This lever sets the position of the engine mount.

Move the lever to slide the engine base away from the drive pulley, disengaging the belt.

IMPORTANT:

Always disengage drive belt before starting or stopping engine.

Move the lever again, to engage drive belt. Set the belt tension so the belt does not slip during operation.

- d. Choke:
This lever controls the position of the choke. Slide the lever to the left to close the choke valve for starting when the engine is cold. Slide to the right to open the choke as the engine warms.

Always open the choke fully when operating the machine.

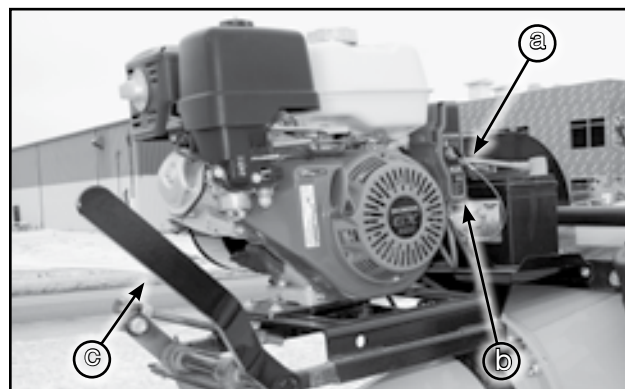


Fig 5 - Gas engine with electric start

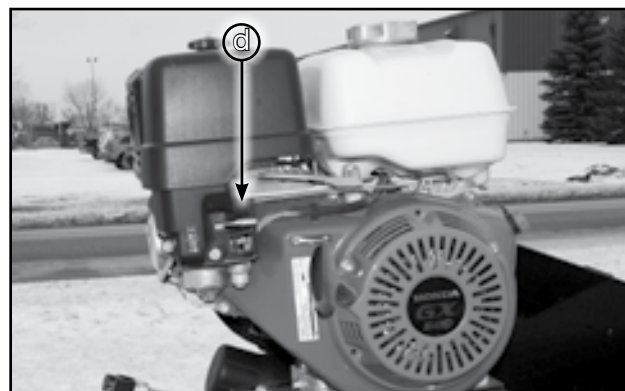


Fig 6 - Gas engine

- e. **Throttle:**
This lever controls the engine RPM. Move the lever left to increase the engine speed and right to decrease.

Always run at maximum engine RPM when operating.

- f. **Fuel Shut-Off Switch:**
This switch controls the flow of fuel to the engine. Move the switch to the right to open the valve and start the flow of fuel. Move the switch left to close the valve and the engine will run.

- g. **Starting Rope:**
This retracting rope and T-bar is used to turn the engine over for starting. Grasp the T-bar firmly and pull the rope sharply to start the engine. Close the choke if the engine is cold.

Electric Motor:

All conveyors with electric power option rely on the dealer and customer to select the motor with the appropriate horsepower and to hire a licensed electrician to provide power, as per the National Electrical Code ANSI/ NFPA 70 and local codes.

A variety of switches can be used. Install an ON/OFF switch next to the motor for the convenience of the operator.

Minimum Power Requirements:

Model	Electric HP
1214-GN	5hp
1615	7.5hp
1616-RC	7.5hp
2218	10hp
2218-RC	10hp

Table 1 - Power Requirements

Hydraulic Motor:

Position the power unit next to the conveyor, and connect hydraulic hoses to the couplers.

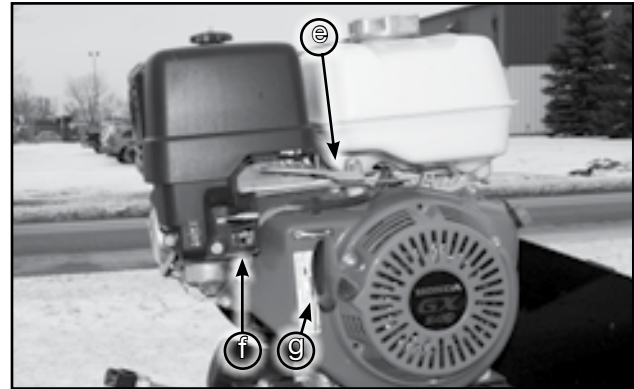


Fig 7 - Gas engine



Fig 8 - Electric motor



Fig 9 - Hydraulic motor, hoses not attached

Hopper Frame:

The hopper is designed with a spring loaded frame. It can be raised or lowered with a winch. When the hopper sides are raised, the maximum conveying capacity is obtained.



WARNING: Unexpected Movement
Do not release Hopper Winch handle when ratchet lever is in unlocked position, with load on winch. Handle could spin violently causing injury.

Railcar Hopper (Optional):

This hopper has a very low profile to allow for positioning under a railcar hopper.

UBH Hopper (Optional):

This hopper contains large hold-down wheels at the transition between the hopper and tube.

This unit is generally used for gravel or other aggregate.

Goose Neck (GN) Hopper (Optional):

This hopper contains hold-down wheels inside the transition housing between the hopper and tube.



WARNING: Unexpected Movement
Do not release Hopper Winch handle when ratchet lever is in unlocked position, with load on winch. Handle could spin violently causing injury.



Fig 10 - S-Neck hopper

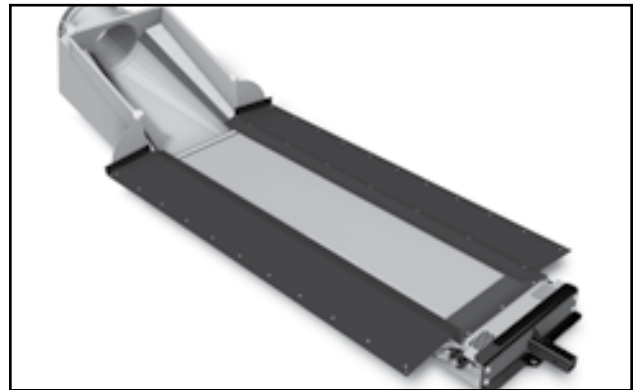


Fig 11 - Railcar hopper



Fig 12 - UBH hopper



Fig 13 - Goose neck hopper

Hopper Winch:

Use the winch to raise and lower the hopper frame or the railcar hopper side panels.

**WARNING: Unexpected Movement**

Do not release handle when ratchet lever is in unlocked position with load on winch. Handle could spin violently causing serious injury.



Fig 14 - Railcar winch

Frame Height/Angle:

The unit is designed with an adjustable wheel frame that can be used to set the frame angle or discharge height.

Set at the height appropriate for your application. Keep the angle as low as possible to insure that the conveying capacity is at the maximum.

To change the balance of the machine for moving around the yard; loosen the clamp around the tube. Slide or tap the undercarriage to adjust its position along the tube. Tighten the clamp again.



Fig 15 - Frame adjustment

Discharge Hood:

The Discharge Hood is designed with brackets that allow it to tilt or be removed. This will facilitate throwing material at a different angles from the end of the machine. Set the hood appropriately for the application.

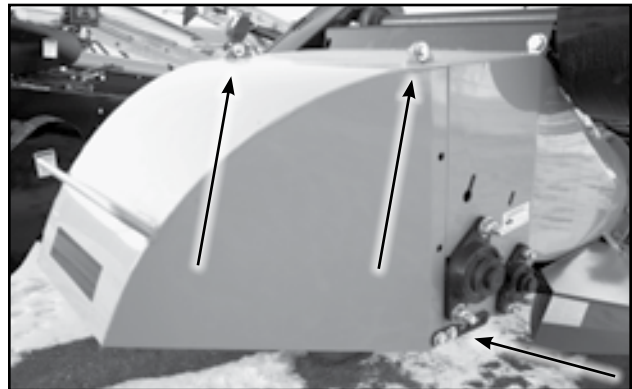


Fig 16 - Discharge hood adjustments

3.3 MACHINE BREAK-IN

There is no operational restrictions on the conveyor when used for the first time.

The conveyor belt's alignment is set at the factory, to track correctly without carrying a load. It is important to check alignment and make adjustments, if required, during the first few minutes of operation.

It is recommended that the following procedural and mechanical items be checked:

Before Starting Work:

1. Read the conveyor and engine operator manuals.
2. Run the unit for half an hour to seat the conveyor belt and flashing around the intake hopper. It is normal for rubber from the flashing to be expelled out the discharge and form a pattern on the belt.

After Operating or Transporting for 1/2 hour:

3. Re-torque all the wheel bolts, fasteners and hardware.
4. Check fuel level, engine oil level and hydraulic oil level.
5. During the conveyors first few minutes of operation, check belt alignment to ensure preset alignment and tension does not vary under loaded conditions.
6. Check the flashing seal on the hopper. If any product comes out of the hopper around the flashing; stop the belt, loosen flashing mounting screws and adjust. Retighten anchor screws and try again. Repeat until no product is lost.
7. Check condition of all hydraulic lines, hoses and connections. Repair or replace any damaged system components.
8. Check that all guards are installed and working as intended.

After Operating For 5 Hours and 10 Hours:

Repeat steps 1 through 8 above.

Go to the normal servicing and maintenance schedule as defined in the Section 4: Service and Maintenance.

3.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the conveyor requires that each operator knows the operating procedures.

It is important for both the personal safety and maintaining the good mechanical condition of the machine that this checklist is followed.

Before operating the conveyor, and each time thereafter, the following areas should be checked.

1. Check worksite. Clean up working area to prevent slipping or tripping.
2. Be sure that the battery is fully charged. If needed, charge the battery before connecting it with the battery cables.
3. Lubricate and service the machine as per the schedule outlined in the Section 4.2.
4. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
5. Check that the drive and conveyor belts are properly tensioned and aligned.

Ensure are not frayed or damaged.
6. Be sure conveyor wheels are chocked.
7. Check that discharge and hopper areas are free of obstructions.

NOTICE: Upending Hazard

Anchor or support conveyor during operation. When lower half empties of material, the weight balance transfers to the discharge end of the machine, which can cause upending.

3.5 ATTACHING TO TOW VEHICLE

The Transfer Conveyor may be attached to a truck or tractor whenever it is moved. It is road worthy and may be transported by a truck over long distances.

1. Make sure that bystanders, especially small children, are clear of the working area.
2. The hitch is removable. Install hitch and secure with the anchor pin and retainer before using hitch.
3. Back up to the conveyor.
 - Set the park brake before dismounting.
4. Remove the chocks from the wheels.
5. Lift the hopper to the drawbar of the towing vehicle and install the pin with its retainer.
6. Secure the safety chain around the drawbar cage to prevent unexpected separation.
7. The conveyor is ready for transport.

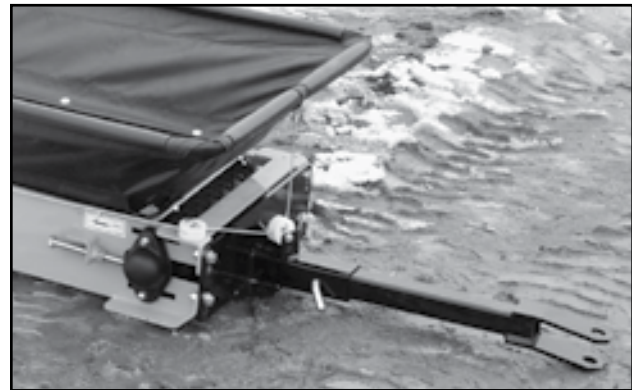


Fig 17 - Hitch

Reverse the above procedures to unhooking.

3.6 CONVEYOR PLACEMENT

Follow this procedure when placing the Transfer Conveyor into working position:

1. Clear the area of bystanders, especially small children, before starting.
2. Be sure there is enough clearance from other equipment to move the machine into position.
3. Move the machine under the grain truck or to the secondary conveyor and storage facility.

Note:

The machine is evenly balanced.
Push down slightly on discharge end
to raise hopper off the ground
and maneuver easily.

4. Place chocks in the front and rear of each wheel.
5. Position the next conveyor or conveying system under the discharge hood and secure.
6. For the Electric Motor Unit:
 - Have a certified electrician provide power to the machine.
 - Provide convenient shutdown switches and comply with local electrical codes.
 - Use a totally enclosed electric motor. Be sure electric motor is properly grounded.
7. For the Hydraulic Drive Unit:
 - Position the power unit next to the conveyor.
 - Chocks the front and rear wheels of the power unit.
 - Connect hydraulic hoses to the couplers.



Fig 18 - Conveyor under truck



Fig 19 - Hopper sides raised



Fig 20 - Wheels chocked

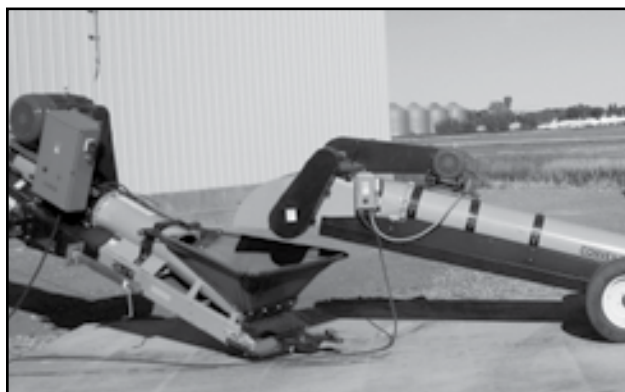


Fig 21 - Next conveyor

3.7 FIELD OPERATION

3.7.1 Starting Conveyor:

Gas Engine Units:

1. Move engine assembly to its loosest drive belt tension.
2. Turn ignition switch on.
3. Move throttle to its 1/4 position for starting.
4. Close choke if engine is cold.
5. Pull sharply on the starting rope until the engine starts.
6. Run until the engine warms and the choke is opened.
7. Move engine assembly to engage drive belt.
8. Increase engine speed to full throttle.
9. Start flow of material.



Fig 23 - Gas engine



Fig 22 - Electric motor

Electric Motor Units:

1. Turn the electric motor ON.
2. Start the flow of material and unload.

Hydraulic Drive Units:

1. Place all controls in neutral.
2. Start tractor engine and run at low idle.
3. Place hydraulic lever in detent.
4. Increase engine speed to rated RPM.
5. Begin unloading into the hopper.



Fig 24 - Hydraulic motor

3.7.2 Stopping Conveyor:**Gas Engine Units:**

1. Run until conveyor belt is empty.
2. Reduce speed to low idle.
3. Move engine assembly to disengage drive belt.
4. Shut off engine

Electric Motor Units:

1. Run until the conveying belt is empty.
2. Turn off motor and lock out power source.

Hydraulic Drive Units:

1. Run until conveying belt is empty.
2. Reduce engine speed to low idle.
3. Place hydraulic lever in neutral.
4. Shut off engine.



Fig 25 - Working conveyor

3.7.3 Emergency Stopping:

Although it is recommended that the conveyor belt be emptied before stopping, in an emergency situation, stop or shut-down the power source immediately.

Correct the emergency before resuming work.

3.7.4 Restarting after Emergency Stop:

When the machine is shut down inadvertently or in an emergency, the conveyor belt will still be covered with material.

Since the start-up torque loads are much higher than normal when the belt is covered, restart at a low speed. It may be necessary to tighten the drive belt slightly to handle the heavier than normal loads.

3.7.5 Belt Speed:

The best results are obtained when the input drives are set to provide a belt speed of 400 to 500 ft/min.

Count the number of belt revolutions per unit time to determine belt speed. Use the lacing as a reference when counting belt revolutions.

Contact your dealer or the factory for the appropriate drive components to give the recommended belt speed.

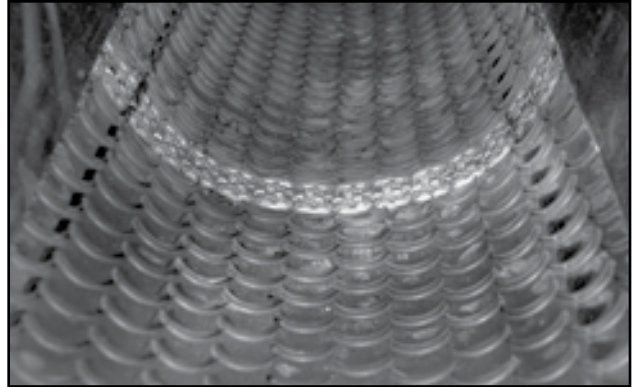


Fig 26 - Conveyor lacing

3.7.6 Unplugging:

In unusual moisture, crop or material conditions, the machine can plug. When unplugging, follow this procedure:

1. Place all controls in neutral or off, stop engine or motors and disable power source.
2. Remove the material from the discharge and the intake area.
3. Reposition unit if discharge area plugs due to lack of clearance.
4. Restart unit.

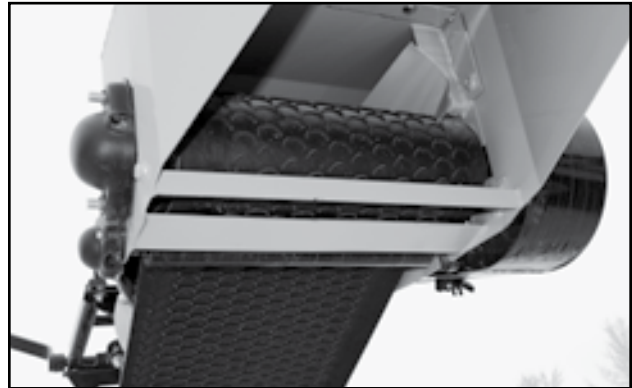


Fig 27 - Under discharge hood

3.7.7 Hold Down Wheels on "GN" Models:

In situations where the conveying belt jams or is overtightened, the belt can come out from under the hold down wheels at the transition point. To correct situation:

1. Run until machine is empty or remove all material from machine.
2. Turn engine or motor off and disable the power source.
3. Move conveyor belt into its loosest position. Refer to Section 4.3.1
4. Remove transition cover.
5. Push conveyor belt under hold down wheels.
6. Set tension and alignment. Refer to Section 4.3.1
7. Install and secure transition cover.

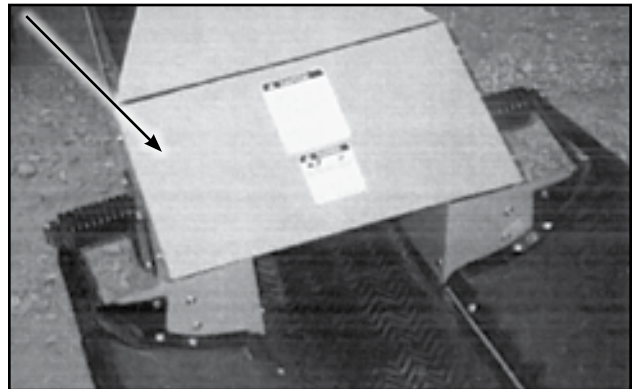


Fig 28 - Transition cover



Fig 29 - Hold down wheel location

3.8 OPERATING HINTS

- Always listen for any unusual sounds or noises. If any are heard, stop the machine and determine the source. Correct the problem before resuming work.
- The machine is available in 10" and 14" diameter tubes, as well as 16" and 22" belts. The larger the tube and wider the belt, the higher the capacity will be.
- Never allow anyone into the workplace hazard area. If anyone enters, stop immediately. The visitor must leave before resuming work.
- Position discharge hood appropriately for the application. Refer to page 3-6
- For best results, conveyor belt should rotate at a speed of 400 to 500 ft/min.
- Do not run the machine for long periods of time with no material on the belting. This increases the wear. Try to run only when moving material.
- Keep the hopper full for maximum capacity.
- Most efficient results will be obtained when flow of incoming material is directed to the front of the hopper (closer to the tube).
- The hopper is designed with flashing to seal the junction of the belt with the sides of the hopper. It must be kept in good condition to prevent the material from "leaking" out of the hopper. Replace flashing if "leakage" occurs.



Fig 30 - Feeding the hopper

3.9 TRANSPORTATION

Convey-All™ Transfer Conveyors are designed to be easily and conveniently moved from place to place.

When transporting, follow this procedure:

1. Review the Transport Safety Schematic before starting.
2. Be sure all bystanders are clear of the machine.
3. Electric Motor Units:
Unplug the power cord, wrap it around frame and secure to prevent dragging.

Hydraulic powered units:

Disconnect hydraulic hoses, remove power source, wrap hose around frame and secure to prevent dragging.

4. The unit is highway safe. It can also be placed on a transport vehicle or trailer and tied down securely.
5. Hitch is removable. Place hitch, then attach it to a tractor or truck using a hitch pin with a retainer and a safety chain.
6. Remove chocks from the wheels.
7. Slowly pull away from the working area.
8. Ensure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
9. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
10. Do not allow riders on the machine or tractor.
11. During periods of limited visibility, use pilot vehicles or add extra lights to the machine.
12. Always use hazard flashers on the tractor when transporting unless prohibited by law.



Fig 31 - Chocked wheels

3.10 STORAGE

After the season's use, the conveyor should be thoroughly inspected and prepared for storage.

Repair or replace any worn/damaged components to prevent unnecessary down time next season.

For a long, trouble free life, this procedure should be followed when preparing the unit for storage:

1. Remove all residual material from hopper and tube.
2. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove the entangled material.
3. Thoroughly wash the conveyor to remove all dirt, mud, debris and residue.
 - Clean inside the conveyor tube.
 - Wash the top and under the conveyor belt.
4. Lubricate all grease fittings and bearings.
 - Ensure all grease cavities have been filled with grease to remove any water residue from the washing. This also protects the bearing seals.
5. For hydraulic drive units:
 - Apply a light coat of oil to the roller chain coupler to prevent rusting.
 - Inspect all hydraulic hoses, fittings, lines, couplers and fittings. Tighten any loose fittings. Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
6. Touch up all paint nicks and scratches to prevent rusting.
7. For gas engine with electric start:
 - Remove the battery, be sure it is fully charged.
 - Store it inside.
 - Do not sit the battery on a cold floor.
8. Select a storage area that is dry, level and free of debris.
 - If it cannot be placed inside, cover the gas engine or electric motor with a water proof tarpaulin and tie securely in place.
9. Store away from human activity.
10. Do not allow children to play on or around the stored machine.



Fig 32 - Transfer conveyor

This page intentionally left blank

Section 4: SERVICE AND MAINTENANCE



Servicing Safety

- Review the Operator's Manual and all safety items before maintaining the machine.
- Follow good shop practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
- Place all controls in neutral. Stop engine. Remove the key. Wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Relieve pressure from hydraulic circuit before servicing.
- Before applying pressure to a hydraulic system, make sure all components are tight and that hoses and couplings are in good condition.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.
- Place stands or blocks under frame before working beneath the unit.
- Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.
- Before resuming operation, install and secure all guards when maintenance work is completed.
- Keep safety decals clean. Replace any decal that is damaged or not clearly visible.

By following the operating instructions, in conjunction with a good maintenance program, your tube conveyor will provide many years of trouble free service.

4.1 FLUIDS AND LUBRICANTS

Fuel and Engine Oil:

Refer to the engine manual for specific information:

- crankcase capacity
- type of fuel to use, and quantity

Grease:

Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable, SAE multipurpose lithium based grease.

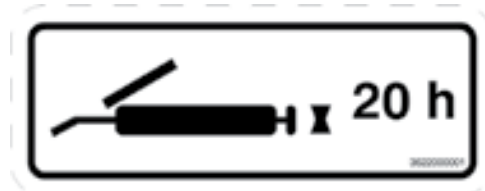
Storing Lubricants:

Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

4.1.1 Greasing:

Use the Service Record on pg 4-4, to keep a record of all scheduled maintenance.

1. Use a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Recommended greasing is 1 small stroke every 2 weeks.
4. Replace and repair broken fittings immediately.
5. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.



3622000001

4.2 SERVICING INTERVALS

The conveyor belt alignment is preset to run true under a condition of no load. It is important to check alignment and make adjustments, if required, during the initial few minutes of loaded operation.

Check bearings for wear daily.

The following recommended servicing intervals are based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication and oil changes.

Schedules may vary depending on options and engine model contained in the present unit.

IMPORTANT:

For engine servicing and maintenance, refer to its manual for complete details.



Fig 33 - Gas engine with electric start

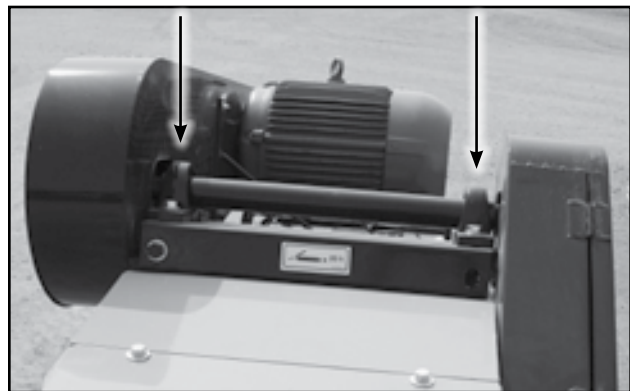


Fig 34 - Counter shaft bearings

4.2.1 After 10 Hours or Daily:

1. Check fuel level on units with gas engine.
Add as required.
2. Check oil level on units with gas engine.
Add as required.
3. Grease counter shaft bearings, if equipped.
4. Grease hopper roller bearings.
5. Grease transition roller bearings, if equipped.
- 6 locations.
6. Grease discharge roller bearings.



Fig 35 - Hopper roller bearing



Fig 36 - Transition roller bearings

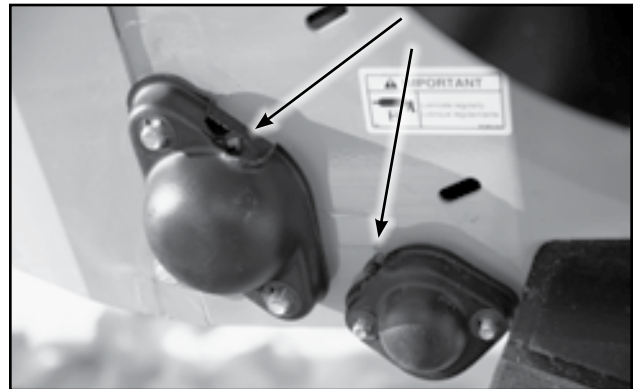


Fig 37 - Discharge roller bearings zerks

4.2.2 After 50 Hours or Weekly:

7. Check conveyor belt tension and alignment.
Refer to **Section 4.3.1 and 4.3.2**

Note:

A properly tensioned belt will not slip
when in operation.

8. Check the condition of rubber hopper flashing.
Be sure it still seals the hopper to prevent leaking.



Fig 38 - Hopper roller bearing



Fig 39 - Hopper flashing

Gas Engine and Electric Motor Units:

9. Check drive belt tension and alignment.
Refer to Section 4.3.4 and 4.3.5
10. Clean air filter. Refer to Section 4.3.9

Hydraulic Drive Units:

11. Oil input drive coupler.

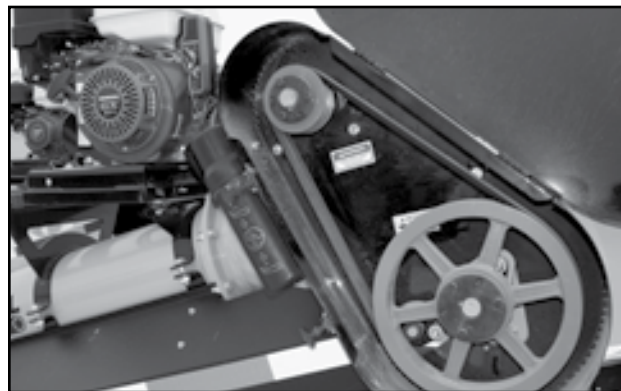


Fig 40 - Drive belt

“GN” Models:

12. Check hold down wheels for wear on rubber wrap. Replace if necessary.
Refer to Section 4.3.7

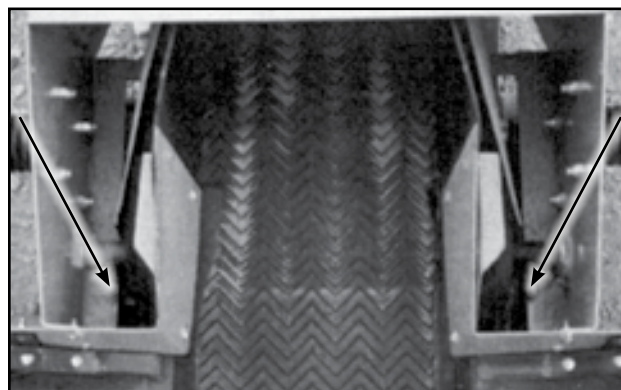


Fig 41 - Hold down wheel location

4.2.3 After 200 hours or Annually:

Gas Engine Units:

13. Change engine oil and filter.
Refer to Section 4.3.8



Fig 42 - Gas engine

14. Change air filter. Refer to Section 4.3.9



Fig 43 - Air filter with cover removed

15. Repack wheel bearings.

16. Check tire air pressure.

17. Torque wheel bolts.



Fig 44 - Wheels

18. Thoroughly wash the conveyor to remove all dirt, mud, debris and residue.
 - Clean inside the conveyor tube.
 - Wash the top and under the conveyor belt.



Fig 45 - Clean unit

4.3 MAINTENANCE PROCEDURES

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble-free service.

4.3.1 Conveying Belt Tension:



WARNING: Rotating Part Hazard
Turn off engine or motor, remove power supply and wait for all belts to stop rotating.

Belt tension is pre-set at the factory, under no load. Check the tension often while breaking-in the conveyor, because the belt may stretch.

Belt tension and alignment should be checked weekly, or more often if required. Be sure that it does not slip or run to one side.

To maintain the belt, follow this procedure:

1. Loosen the roller bearing housing bolts.
2. Depending on the model:
 - Move the bearing mounts to the correct tension.
 - or -
 - Rotate the adjustment bolts.

IMPORTANT:

Adjust both sides equally.

3. Tighten the housing bolts.

Note:

If belt needs more, or less slack,
stop belt, and turn off engine.
Move hopper roller 1/4 to 1/2 inch.
Tension the belt.



Fig 46 - Roller bearing mounts and anchor bolts

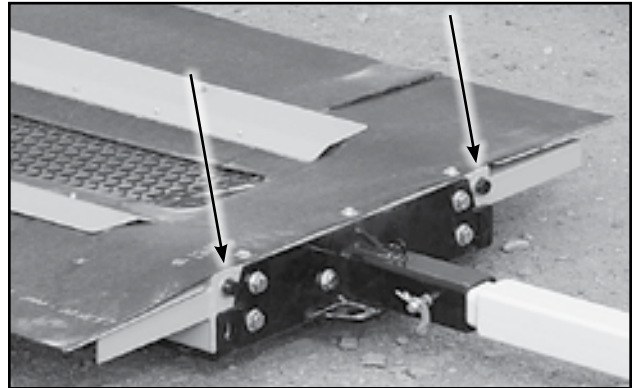


Fig 47 - Adjustment bolts

4.3.2 Conveyor Belt Alignment:

The belt is properly aligned when it runs in the centre of the rollers on both ends of the conveyor. As with tensioning, the alignment should be checked weekly, or when necessary.

Note:

If belt is out of alignment,
it will move to the loose side.
Tighten loose side or loosen tight side.

Belt Alignment at Tail and Transition Rollers:

1. Turn off the engine/motor.
2. Adjust one side of roller at a time.
 - Remove bearing housing guard.
 - Loosen the bearing housing.
3. Depending on the model:
 - Move the bearing mount slightly.
 - or -
 - Tighten or loosen the adjustment bolt by 1/4 turn to 2 turns.
4. Tighten bearing housing.
5. Rotate the conveyor belt slowly, and check the position of the belt on the tail roller.
 - Repeat steps until the belt is centred.
6. When aligned, attach the housing guard.

Belt Alignment at Discharge/Drive Roller:

7. Adjust one side of roller at a time.
 - Remove bearing housing guard.
 - Loosen the bearing housing.
 - Move the bearing mount slightly.
8. Tighten bearing housing.
9. Rotate belt slowly, and check position on roller.
10. When aligned, attach the housing guard.

Check frequently during the first few minutes of operation and then several times during the first 10 hours.

The belt normally seats itself during the first 10 hours of operation. It can be checked weekly after that.

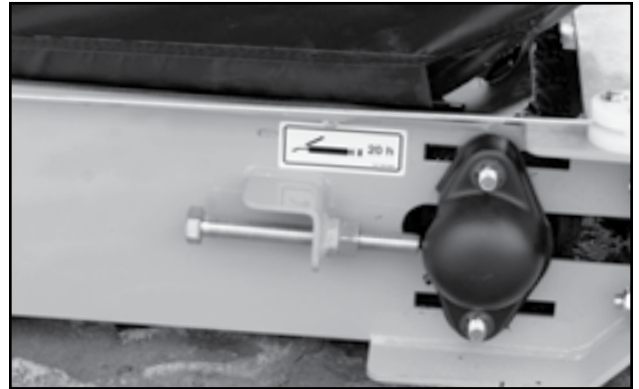


Fig 48 - Roller bearing mounts and anchor bolts

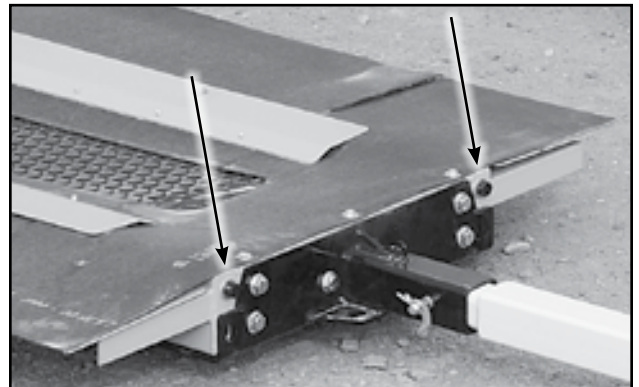


Fig 49 - Adjustment bolts



Fig 50 - Belt centred at discharge

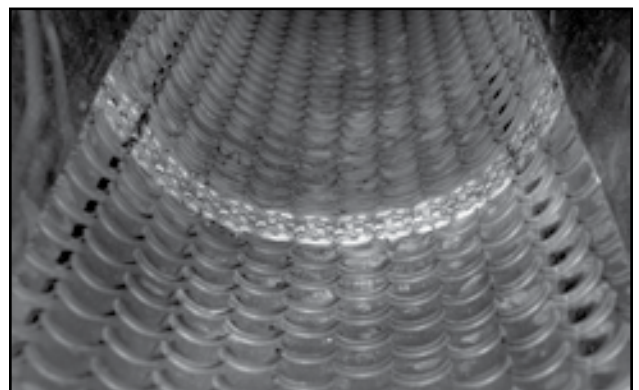


Fig 51 - Belt centred inside tube

4.3.3 Conveyor Belt Replacement:

1. Rotate the belt until the Alligator Lacing is positioned under the tube and is accessible.
2. Loosen the bolts in the bearing housing to their loosest position.
3. Pull all the slack to the seam area.
4. Remove the lacing rod and open the belt.
5. Attach one end of the replacement belt to the end of the existing belt (to be removed) which is hanging closest to the hopper.
6. Pull the end of the old belt which is coming from the direction of the discharge hood. The new belt will follow and be threaded into place.
7. Disconnect the old belt.
8. Connect the ends of the new belt.
9. Push the lacing rod through the lacing.
10. Cut off the excess rod.
 - Taper and trim both ends of the belt corners.
11. Crimp the lacing at the end to lock the rod in place.
12. Set the belt tension. Refer to Section 4.3.1
13. Set the belt alignment. Refer to Section 4.3.2.



Fig 52 - Tail roller bearing housing

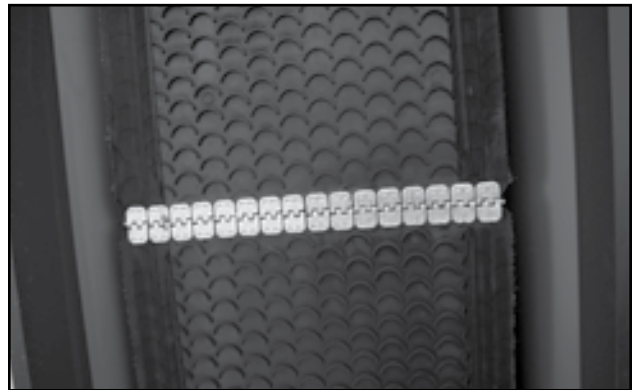


Fig 53 - Conveyor belt seam under tube

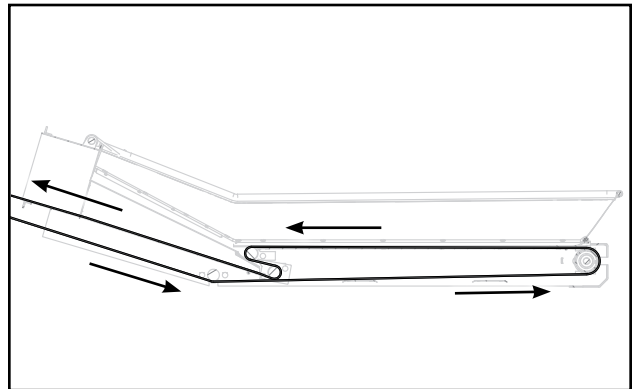


Fig 54 - S-Neck belt path

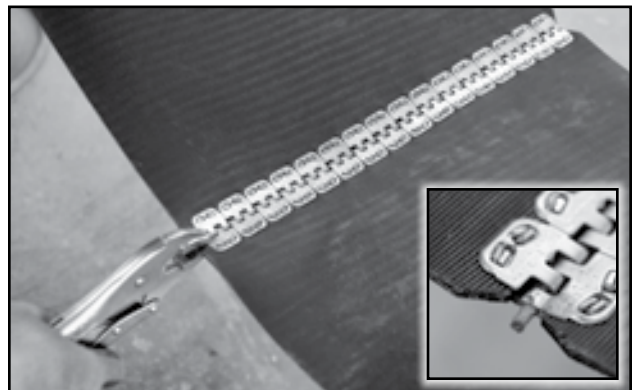


Fig 55 - Belt lacing

4.3.4 Drive Belt Tension:

To adjust drive belt tension, follow this procedure:



WARNING: Rotating Part Hazard
Turn off engine or motor, remove power supply and wait for all belts to stop rotating.

First, Tension "Counter Shaft to Drive" Belt:

1. Open the guard over the V-belt pulleys.
2. Loosen counter shaft bearing mount anchor bolts and lock nuts.
3. Use bearing mount position bolts to adjust countershaft position and set belt tension.

Calculate the tension. See Figure 58:

- Measure the length of span between pulleys
- Allow 1/64" of deflection per inch of span

4. Tighten bearing mount anchor bolts.
5. Tighten lock nuts on the adjusting bolts.
6. Close and secure guard over pulleys.

Second, Tension "Engine to Counter Shaft" Belt:

7. Open the guard over the V-belt pulleys.
8. Loosen engine/motor mount bolts and lock nuts.
9. Use motor mount bolts to set belt tension.

Calculate the tension. See Figure 58:

- Measure the length of span between pulleys
- Allow 1/64" of deflection per inch of span

10. Tighten motor mount anchor bolts.
11. Tighten lock nuts on the adjusting bolts.
12. Close and secure guard over pulleys.

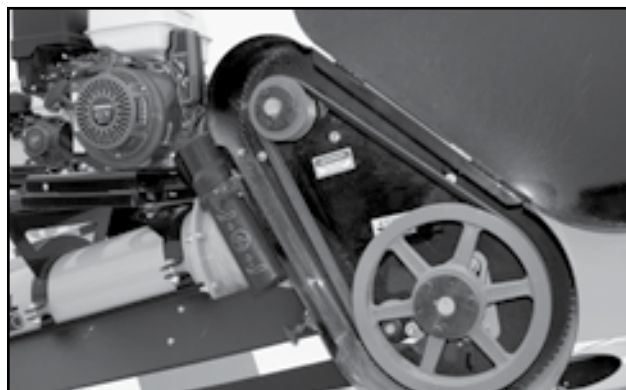


Fig 56 - Counter shaft to drive roller V-belt

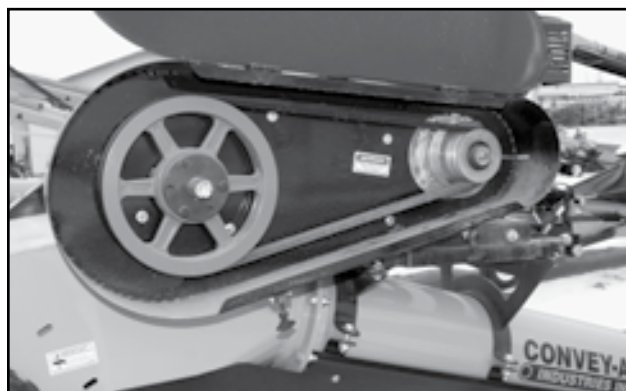


Fig 57 - Engine to counter shaft V-belt

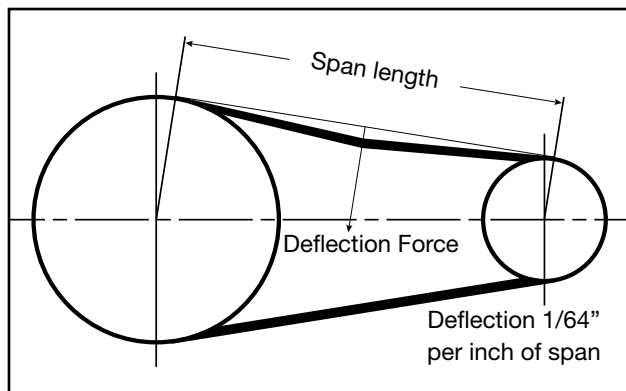


Fig 58 - Tension calculation



Fig 59 - Electric motor, speed reduction drive

4.3.5 Check Pulley Alignment:

1. Use a straight edge across both drive and driven pulleys to check alignment.
2. Use the tapered lock hub in the center of the pulley to adjust the position of a pulley if required.
3. Move a pulley to align if there is more than a 1/32 inch gap between the edge of the pulley and the straight edge.

4.3.6 Drive Belt Replacement:

1. Place drive system into its loosest position.
2. Remove old belt.
3. Install replacement belt.
4. Set belt tension.
Refer to instructions in Section 4.3.4
5. Check pulley alignment. Refer to Section 4.3.5

4.3.7 "GN" Hold Down Wheels Replacement:

1. Remove transition cover. See Figure 28
2. Remove bolts which face the open hopper (a). There are 2 bolts on either side. See Figure 60
3. Remove bolts which are inside the tube (b). 1 on either side. See Figure 60
4. Now, these side brackets are loose, but still attached to the hopper flashing. Folded both sides out, to lay on hopper. This will give access to the wheels.
5. Remove the bolts, then remove worn wheels (c).
6. Insert the new wheels and tighten bolts.
7. Fold side brackets back into place. Bolt and tighten.
8. Secure transition cover to guard hopper transition.

Cross Section	Smallest Sheave Diameter Range	RPM Range	Belt Deflection (Force Pounds)			
			Uncogged Hy-T® Belts and Uncogged Hy-T® Torque Team®		Cogged Torque Flex® and Machined Edge Torque Team® Belts	
			Used Belt	New Belt	Used Belt	New Belt
A, AX	3.0 - 3.6	1000-2500 2501-4000	3.7 2.8	5.5 4.2	4.1 3.4	6.1 5.0
	3.8 - 4.8	1000-2500 2501-4000	4.5 3.8	6.8 5.7	5.0 4.3	7.4 6.4
	5.0 - 7.0	1000-2500 2501-4000	5.4 4.7	8.0 7.0	5.7 5.1	9.4 7.6
B, BX	3.4 - 4.2	860-2500 2501-4000	n/a	n/a	4.9 4.2	7.2 6.2
	4.4 - 5.6	860-2500 2501-4000	5.3 4.5	7.9 6.7	7.1 6.2	10.5 9.1
	5.8 - 8.6	860-2500 2501-4000	6.3 6.0	9.4 8.9	8.5 7.3	12.6 10.9
C, CX	7.0 - 9.0	500-1740 1741-3000	11.5 9.4	17.0 13.8	14.7 11.9	21.8 17.5
	9.5 - 16.0	500-1740 1741-3000	14.1 12.5	21.0 18.5	15.9 14.6	23.5 21.6
D	12.0 - 16.0	200-850 851-1500	24.9 21.2	37.0 31.3	n/a	n/a
	18.0 - 20.0	200-850 851-1500	30.4 25.6	45.2 38.0	n/a	n/a
			Uncogged Hy-T® Wedge Belts and Uncogged Hy-T® Wedge Torque Team®		Cogged Hy-T® Wedge Belts and Hy-T® Wedge Machine Edge Torque Team®	
			Used Belt	New Belt	Used Belt	New Belt
5V	4.4 - 6.7	500-1749 1750-3000 3001-4000	n/a	n/a	10.2 8.8 5.6	15.2 13.2 8.5
	7.1 - 10.9	500-1740 1741-3000	12.7 11.2	18.9 16.7	14.8 13.7	22.1 20.1
	11.8 - 16.0	500-1740 1741-3000	15.5 14.6	23.4 21.8	17.1 16.8	25.5 25.0

Table 2 - Belt deflection force

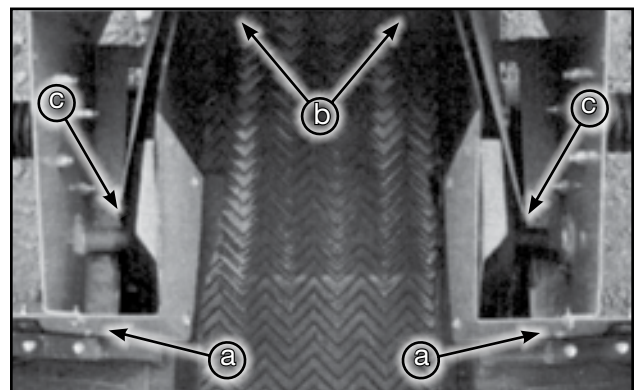


Fig 60 - Bolts facing hopper (a), bolts inside (b), wheels (c)

4.3.8 Changing Engine Oil and Filter:

1. Review the Operator's Manual for the engine.



WARNING: Rotating Part Hazard
Turn off engine or motor, remove power supply and wait for all belts to stop rotating.



DANGER: Hot Components
Allow the engine to cool before changing the oil. Hot oil can cause burns if it contacts exposed skin.

Note:

It is best to change oil while engine is warm to keep contaminants in suspension.

2. Place a pan under the drain plug.
3. Remove the drain, allow oil to drain for 10 min.
4. Install and tighten the drain plug, and dispose of the used oil in an approved container.
5. Fill crankcase with oil. Refer to engine manual.
6. Run engine for 1-2 mins and check for oil leaks.
 - If leaks are found, tighten drain plug slightly.
7. Check engine oil level. Top up as required.

4.3.9 Clean/Change Air Filter:



WARNING: Rotating Part Hazard
Turn off engine or motor, remove power supply and wait for all belts to stop rotating.

1. Remove the cover from over the filter.
2. Remove the foam filter from the engine.
3. Use an air hose to blow the dust and debris out of the foam.
4. Reinstall or replace foam and secure the cover.



Fig 61 - Gas engine

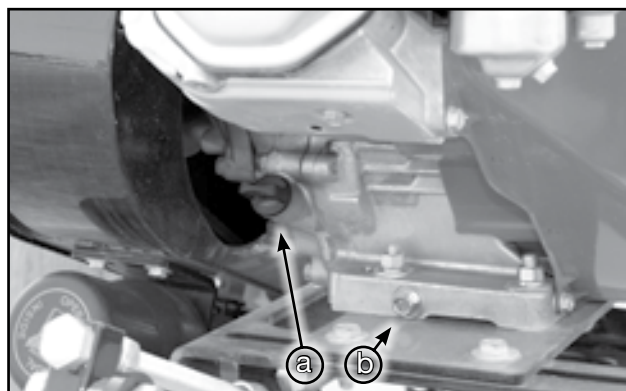


Fig 62 - (a) Fill plug and (b) drain plug



Fig 63 - Air filter with cover removed

This page intentionally left blank

4.4 SERVICE RECORD

See Section 4.2 for service intervals. This schedule is only a general guide under good conditions. Under extreme, or unusual circumstances adjust service timing accordingly.

For more detailed schedule pertaining to the specific engine/motor model, consult its manual.

Copy this page to continue record.

Maintenance	Hours																		
	Serviced By																		
10 Hours or Daily																			
Check Fuel Level																			
Check Engine Oil Level																			
Grease Counter Shaft																			
Grease Hopper/Transition Roller Bearings																			
Grease Discharge Roller Bearings																			
50 Hours or Weekly																			
Check Conveyor Belt Tension																			
Check Conveyor Belt Alignment																			
Check Hopper Flashing																			
Check Drive Belt Tension and Alignment																			
Clean Air Filter																			
Oil Hydraulic Drive Coupler																			
Check Hold Down Wheels																			
200 Hours or Annually																			
Change Engine Oil and Filter																			
Change Air Filter																			
Repack Wheel Bearings																			
Check Tire Pressure																			
Torque Wheel Bolts																			
Wash Machine																			

4.5 ORDERING PARTS

Always give the Model Number and Serial Number when ordering parts.

To get your parts promptly the following information will be required:

- The part name and number
- Your Name, Address, Town, Province/State, Country
- Complete information for shipping

Confirm all phoned in orders in writing. If Purchase Orders are required please note the number on the written order.

Unless claims for shortages or errors are made immediately upon receipt of goods, they will not be considered.

Inspect all goods received immediately upon receipt. When damaged goods are received, insist that a full description of the damage is made with the carrier against the freight bill. If this is insisted upon, full damage can be collected from the transport company.

No responsibility is assumed for delay or damage to merchandise while in transit. Dealers responsibility ceases upon delivery or pickup of shipment from or to the transportation company. Any freight damage claims must be made with the transportation company, not with the dealer.

Section 5: TROUBLESHOOTING

In this section is a list of common problems, causes and solutions which may be encountered.

If you have a problem which is difficult to solve, even after having read through this section, please contact your authorized dealer, distributor or the Convey-All Industries Inc. Before you call, please have this Operator's Manual and the unit's serial number ready.

Problem

Possible Cause	Possible Solution
----------------	-------------------

Engine won't start

Low battery	Recharge or replace
No fuel	Refuel
Air cleaner dirty	Clean the air cleaner, and/or replace the air filter

Hydraulic system - No hydraulic flow

Flow valve closed or plugged	Open flow circuit valve
	Replace plugged hydraulic filter

Engine/Motor labouring

Belt is sticky on the back side, because of oily product or wet/snowy conditions	Clean the belt
Hopper flashing too tight	Adjust to loosen the flashing

Conveyor belt doesn't turn or is slipping

Hopper flashing may be stuck to belt, because it is running dry and rubber is heating up	Turn off unit! Manually peel flashing up and off hopper. Then run dry product through to create barrier between flashing and belt
Belt loose	Tighten and align
Conveyor belt loose because it has stretched	Shorten belt
Belt frozen to tube from operating in high humidity conditions in extreme cold	Remove conveyor from area of high humidity and continue to run empty so the belt dries prior to freezing.
Gas/Electric system - Drive belt loose	Tighten drive belt
Gas/Electric system - Drive roller is slipping	Replace V-belt

continued on next page

Problem

Possible Cause	Possible Solution
----------------	-------------------

Conveyor belt doesn't turn or is slipping - cont'd

Hydraulic system - valve, pump or motor could be malfunctioning	Check and adjust pressure set screw on valve. Test flow from pump. Check for oil leaks under motor. Replace what is needed.
Seized bearing	Check all bearings, Replace any that are rough or seized
Belt/Roller is jammed	Check for sticks, stones, other objects jammed in belt drive area and remove.

Conveyor belt doesn't track correctly

Roller lagging may be worn	Replace roller or have it re-lagged
----------------------------	-------------------------------------

Conveyor Belt Fraying

Belt not aligned	Align and adjust tension
------------------	--------------------------

Product leakage

Product may be getting under the belt at the hopper, traveling up inside the belt and leaking off discharge end	Replace hopper flashing
---	-------------------------

Low conveying capacity

Gas/Electric system - drive roller is slipping	Replace V-belt
Conveyor belt slipping	Tighten and align

Section 6: SIGN-OFF FORM

Convey-All™ follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE), and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the tube conveyor must read and clearly understand ALL Safety, Operating and Maintenance Information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Review this information annually, before the season start-up.

Make periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment.

The following Sign-Off Form is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment. Copy this page to continue record.

[illegible]

This page intentionally left blank

Section 7: REFERENCE

For information not included here, or for a digital copy of this manual, please call your dealer or Convey-All Industries Inc. directly for assistance (1-800-418-9461).

Specifications subject to change without notice.

7.1 SPECIFICATIONS

Model	Discharge Height to Ground	Hopper to Ground	Overall Length	Hopper Length	Tube Diameter	Belt Width
1214-GN	36" - 48"	61/2"	15' 4"	4' 9"	10"	12"
1615	38" - 48"	61/2" - 73/4"	17' 4"	5' 10"	10"	16"
1616-RC	36" - 48"	45/8"	20'	7'	10"	16"
2218	38" - 48"	61/2" - 73/4"	20' 2"	5' 10"	14"	22"
2218-RC	36" - 48"	45/8"	21' 6"	7'	14"	22"

Table 3 - Specifications

7.2 BOLT TORQUE

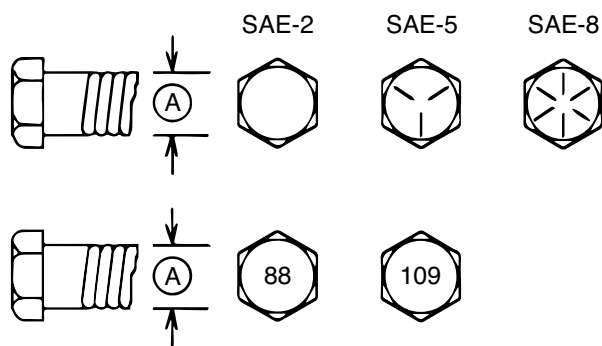
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

ENGLISH TORQUE SPECIFICATIONS						
Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970

Table 4 - English Torque

METRIC TORQUE SPECIFICATIONS				
Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710

Table 5 - Metric Torque



Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.

CONVEY-ALL™

130 CANADA STREET
WINKLER, MANITOBA R6W 0J3
CANADA

www.convey-all.com | conveyors@convey-all.com

TF: (800) 418-9461
PH: (204) 325-4195
FX: (204) 325-8116